**BioFest 2016 – First Information Packet**

Mrs. Krouse, 2015-2016



**What is BioFest?**

BioFest is a project that all 9th and 10th grade students in the Biotechnology program at Osbourn Park High School complete. BioFest projects consist of two parts—a brochure completed individually and a group presentation. I will select the group with the best presentation to continue on to BioFest, an after-school event held from 7-9 PM in June (specific date to be determined) in which you present to your family members, middle school students, etc. Students will receive Biotech hours for presenting at BioFest.

**Essential Information:**

The topic to which I was assigned is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The subtopic to which I am assigned is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Dates to Know:**

Mid April: Class library day

April 22: Individual brochure due

Early May: Class library day

May 26-June 2: BioFest group presentation due, you will be assigned a presentation date.

June (TBD): BioFest Event 7-9 PM

**Partner Contact Information:**

Complete the chart below for each of your group members. Being in contact throughout the entire project is key to your success on this project.

Partner Contact Information:

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Subtopic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Biofest Topics**

**TOPIC 1: Genetically Modified Organisms- Plants**

**Essential information to be included:**

1. Describe what a genetically modified organism is. Provide 2-3 specific plant examples that are not in the subtopic list given below.
2. Detail one potential method/technique for the development of genetically modified plants.

**Subtopics:** Golden rice, Bt crops, Flavr Savr Tomato, Arctic Apple

**TOPIC 2: Genetically Modified Organisms- Animals**

**Essential information to be included:**

1. Describe what a genetically modified organism is. Provide 2-3 specific animal examples that are not in the subtopic list given below.
2. Detail one potential method/technique for the development of genetically modified animals.

**Subtopics:** Spider goat, EnviroPig, GloFish, Popeye Pigs

**TOPIC 3: Genetic Screening**

**Essential information to be included:**

1. Describe the tests can be done on humans to identify disorders and diseases.
2. Provide examples of genetic disorders that scientists can test for.
3. Discuss the accuracy of these tests.

**Subtopics:** Screening of embryos prior to in-vitro fertilization, amniocentesis during pregnancy, gene therapy as a treatment option for people with genetic disorders, carrier screening

**TOPIC 4: Vaccinations**

**Essential information to be included:**

1. Explain what a vaccination is
2. Compare the different types of vaccinations and how they work.
3. Discuss current scientists’ ideas for the development of new types of vaccines

**Subtopics**: Students should examine the development of the polio vaccine, influenza vaccine, HPV vaccine, or MMR vaccine. Specifically, students should investigate how the vaccine works and why should we vaccinate against the illness.

**TOPIC 5: Antibiotic Resistance**

**Essential information to be included:**

1. Define antibiotic and explain how and why antibiotic resistance occurs
2. Discuss the implications and concerns regarding antibiotic resistance.

**Subtopics:**  [Antibiotic-Resistant *Mycobacterium tuberculosis* (TB)](https://www.niaid.nih.gov/topics/tuberculosis/understanding/whatistb/pages/tbdefinitions.aspx), [Methicillin-Resistant *Staphylococcus aureus* (MRSA)](https://www.niaid.nih.gov/topics/antimicrobialresistance/examples/mrsa), [Vancomycin-Resistant *Enterococci* (VRE)](https://www.niaid.nih.gov/topics/antimicrobialresistance/examples/vre), What can be done to combat antibiotic resistance?

**TOPIC 6: DNA Profiling**

**Essential information to be included:**

1. Explain how to create a DNA profile/fingerprint using gel electrophoresis.
2. Identify several uses for such a technology.

**Subtopics:** UsingDNA fingerprinting for paternity testing, using DNA fingerprinting for forensic science, using DNA fingerprinting for diagnosis of genetic diseases,

creating a DNA database

**TOPIC 7: Cloning**

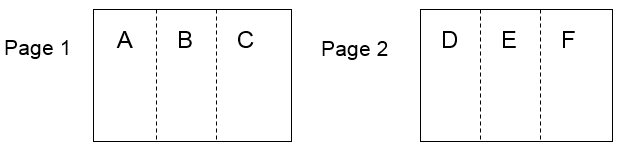
**Essential information to be included:**

1. Describe what cloning is.
2. Detail the types and uses of cloning.

**Subtopics:** Gene cloning using bacteria, reproductive cloning (aka whole organism cloning), therapeutic cloning to make stem cells, history of cloning

**Biofest Brochure: Description and Rubric**

**Description:**For this Biofest component, you will create an individual brochure about the group topic and your personal subtopic. You can use Microsoft Publisher or Microsoft Word to create your brochure, but it must appear professional and contain valuable information. Below is an image of a brochure created in Microsoft Word using 3 columns per page. Pages 1 and 2 are printed back-to-back. When page 1 comes out of the printer, simply take the page out and place it back in the input tray before printing page 2. Do not flip it or turn it in any way. I would prefer if you printed the brochure in color, but it can be printed in black and white if necessary. Requirements for each “panel” of the brochure are given below with associated point values.



**Panel A –**

Clearly identify three legitimate resources the audience can use to learn more about the overall topic and your subtopic. (You cannot include Wikipedia as one of your resources.) These resources can be from your works cited page (see Panel B). **(3 points)**

Describe the information that each resource provides about the overall topic or your subtopic in 2-3 clearly-written sentences (6-9 sentences total). **(6 points)**

***/9 points***

**Panel B –**

Create a works cited page in correct MLA format **(2 points)**

This works cited page should include four legitimate resources about the overall topic and your subtopic. (You cannot include Wikipedia as one of your resources). **(4 points)**

One resource must be a print source (i.e. a book) **(1 point)**

***/7 points***

**Panel C –**

This is your title page for your brochure. On this title page, you must include the following things…

The name of your subtopic in large font and the name of your group topic in small font below **(1 point)**

An image related to your subtopic. You must provide a caption below the image explaining how this picture relates to your subtopic. Below the image, you should also write “image courtesy of…” and provide the URL address of the web site where you got the image. For both your caption and image citation, use small font! **(3 points)**

The Osbourn Park Biotechnology Center logo (you can copy and paste this from the first page of this packet). **(1 point)**

Your full name **(1 point)**

***/6 points***

**Panel D –**

On this page, you will include information about the overall group topic. On this page, you must include the following things…

The name of your group topic as a title at the top of your page **(1 point)**

10 facts about your group topic in paragraph form. You CANNOT use a bulleted list. Your ten facts must be part of one or more paragraphs providing information about your overall group topic. The ten facts must be clearly connected to one another in your paragraphs. You must write these paragraphs IN YOUR OWN WORDS. **(10 points)**

***/11 points***

**Panel E –**

On this page, you will include information about your personal subtopic. On this page, you must include the following things…

The name of your personal subtopic as a title at the top of the page **(1 point)**

A 2-3 sentence explanation of how your subtopic relates to the overall group topic. **(2 points)**

10 facts about your subtopic in paragraph form. You CANNOT use a bulleted list. Your ten facts must be part of one or more paragraphs providing information about your subtopic. The ten facts must be clearly connected to one another in your paragraphs. You must write these paragraphs IN YOUR OWN WORDS. **(10 points)**

***/12 points***

**Panel F –**

On this page, you will include a chart or graph related to the overall group topic or your personal subtopic (examples will be shown in class). Below the chart or graph, you must write “chart / graph courtesy of…” and provide the URL address of the web site where you got the chart or graph in small font. Please make sure that your chart / graph includes a title. If it does not, please create your own logical title for the chart / graph. **(2 points)**

In 4-5 sentences, describe what the chart/graph is showing, identify / explain any trends or patterns seen in the data shown in the chart / graph, and explain how the chart / graph relates to the overall group topic or your personal subtopic. **(6 points)**

***/8 points***

**General Requirements –**

All the information in the brochure is appropriate for a school audience. You have made a clear effort to present the information in an objective manner (i.e., without bias or opinion). **(2 points)**

The brochure has been completed on the computer (i.e., not handwritten) and is neatly done. **(2 points)**

The brochure has been printed on one piece of paper, and the panels are in the correct locations. **(2 points)**

***/6 points***

***Total: \_\_\_\_\_/59 points***